

### REMARKS/ARGUMENTS

This case is under appeal. Applicants are appealing the rejection of claims 20 and 25. This amendment places the appealed dependent claims 20 and 25 in independent form, and therefore presents no new issues.

Prior claim 20 has been rejected as anticipated or made obvious by United States Patent No. 5,990,560 issued to Coult. The Examiner's position is that Coult discloses a binary solder (12 of Fig. 1) comprising gold and tin, a solder quenching layer (14) and that the solder has a usage temperature higher than the melting temperature of the binary solder.

The Examiner is correct. However, the quenching layer of Coult (14 of Fig. 1) is a third layer of gold, one of the components of the gold/tin binary solder. See Col. 5, lines 44-45. Claim 20 as amended calls for a quenching layer selected from the group consisting of platinum, iron, cobalt and nickel. Accordingly Coult does not anticipate amended claim 20.

Nor does Coult make the invention of amended claim 20 obvious. Applicants' specification discusses the Coult reference at p. 1, line 26 – p. 2, lines 16, pointing out that because Coult uses a gold layer to quench a gold/tin binary solder, it uses 5 parts of gold for each part of tin. In contrast, the present invention uses a quenching layer chosen from platinum, iron, cobalt and nickel. Such a quenching layer utilizes the

expensive materials more efficiently. Specifically, in the embodiment where the quenching layer is platinum, "only 0.25 parts of Au and 0.5 parts of Pt must be used for each part of Sn. Accordingly, the Au and Pt layers in the ternary intermetallic compound formed in the present invention can be up to ten times thinner than the Au and Pt layers used in forming the previous binary intermetallics." (p. 6, lines 16-21).

If the invention were obvious, Coult et al. would surely not have used ten times more gold or platinum in their solder.

The Examiner has rejected claim 20 as obvious in view of Coult in combination with United States Patent No. 5,559,817 issued to Derkits. The Examiner's position is that Derkits discloses a platinum layer 208. Citing column 4, lines 53-56, the Examiner contends "it would have been obvious to include a platinum layer [in a AuSn solder] as disclosed in Derkits because it aids in preventing the diffusion of tin..."

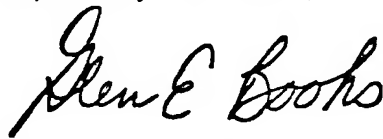
But platinum layer in Derkits is a barrier layer, not a quenching layer. It is specifically sized and dimensioned to prevent diffusion of tin, not to act as a quenching layer. Referring to Layer 208, Derkits et al. specifically state:

"Barrier layer 208 was sized to prevent diffusion of the Tin (Sn) component of the AuSn solder – bonding 106 into the compliant layer 206..." (Col. 4, lines 54-56)

Appl. No. 10/021,174  
Reply to Office action of December 22, 2004

Claim 25 calls for a solder system comprising a gold/tin binary solder with a quenching layer wherein the formed solder comprises a ternary compound. The Examiner's position is that Coult anticipates claim 25 because Could includes an anti-oxidation layer (16) comprised of platinum. But the quenching layer (14) is gold, not platinum. The platinum is described as only "a minority control layer" (Col. 3, line 37), and the solder is a gold/tin formed solder (Col. 3, lines 47-53), not a ternary compound. Accordingly, Coult does not anticipate claim 25. Thus, claims 20 and 25 distinguish all cited art, and this case is now in condition for allowance. Reconsideration and favorable action in this regard is therefore earnestly solicited.

Respectfully Submitted,



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